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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/607,268	06/30/2000	Jeffrey Allan Tilton	24808A	8605

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EXAMINER
STAICOVICI, STEFAN

ART UNIT	PAPER NUMBER
1732	11

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/607,268	TILTON ET AL.	
	Examiner	Art Unit	
	Stefan Staicovici	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. Applicants' amendment filed March 17, 2003 (Paper No. 10) has been entered. No claims have been amended. No claims have been canceled. No claims have been added.

Claims 1-24 and 34 are pending in the instant application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4 and 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664).

Souders *et al.* ('289) teach the basic claimed process for making a fibrous headliner (multiplayer composite insulator) including, positioning a fibrous core (26) of polymeric thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) (polymer based blanket material) between fabric layers (40, 42) (see Figure 7) (facing layer) to form an assembly (54), positioning said assembly (54) between mold dies (58, 60), compressing under conditions of heat said assembly such that said binder fibers melt and are set under heat and pressure to the desired conforming shape (col. 2, lines 20-25 and col. 6, lines 12-15) to form a molded fibrous headliner.

Since the molded fibrous headliner of Souders *et al.* ('289) assumes a self-supporting strength, it is submitted that cooling occurs while the molded fibrous headliner is in between mold dies (58, 60). Further, Souders *et al.* ('289) teach opening the mold dies (58, 60) and removing said molded fibrous headliner for further post-molding processing.

Regarding claim 1, Souders *et al.* ('289) do not teach inserting an insulation insert within said assembly (54). Nelson ('106) teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see col. 10, lines 47-59 and, Figures 3 and 6). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6). Therefore, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289). Further regarding claim 1, although Souders *et al.* ('289) teach cooling of the molded fibrous headliner until it assumes a self-supporting strength, Souders *et al.* ('289) further teach a cooling fixture. Flowers *et al.* ('664) teach a molding process for a fibrous acoustical insulator including, providing a mold having heating/cooling channels (see col. 4, lines 53-60). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a mold having cooling channels as taught by Flowers *et al.* ('664) to cool the resulting molded structure I the mold in the process of Souders *et al.* ('289) in view of Souders *et al.*

('289) due to a variety of advantages such as, reduced costs by not having an additional cooling station, simplicity of mold design, etc. Further, it should be noted that Flowers *et al.* ('664) teach an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55). Therefore, in view of the teachings of Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, whereas Flowers *et al.* ('664) that an insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

In regard to claim 2, Souders *et al.* ('289) teach cutting upper and lower fabric layers (col.. 5, lines 65-68). It is submitted that the fibrous core (26) of polymeric thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) had been cut prior to placing between said cut upper and lower fabric layer (see Figure 7). Nelson ('106) teach using an insulation insert (70) of a pre-selected size and contour. It is submitted that the pre-selected size and contour is obtained by cutting (see col. 10, lines 50-55 and col. 11, lines 59-65). Therefore, it would have been obvious for one of ordinary skill in the art to have cut an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289).

Specifically regarding claims 3 and 4, Souders *et al.* ('289) teach a temperature of said assembly (54) between 250-400 °F (see col. 6, lines 22-27).

Regarding claim 7, Souders *et al.* ('289) teach a compression factor between 10-87.5%.

In regard to claim 8, Souders *et al.* ('289) teach upper and lower fabric layers (40, 42) (see Figure 7).

4. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Doerer *et al.* (US Patent No. 4,418,031).

Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claims 5 and 6, Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a specific molding pressure and time. Doerer *et al.* ('031) teach compression molding of a fibrous core having polymeric thermoplastic binder (carrier) fibers (col. 5, lines 40-57). Further, Doerer *et al.* ('031) teach that the molding temperature, pressure and time depend on the final product. It is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time and pressure as taught by Doerer *et al.* ('031) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Doerer *et al.* ('031) specifically teach that molding time and pressure are result-effective variables.

5. Claims 17-20, 23-24 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Nomizo *et al.* (US Patent No. 5,366,678).

Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claims 17 and 34, Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach heating the fibrous core (26) of polymeric thermoplastic binder fibers (polymer based blanket material) only in at least one selected area such that said at least one selected area is characterized by a higher density and rigidity. However, it should be noted that Souders *et al.* ('289) teach areas of different compaction (22) (see col. 4, lines 22-27). Nomizo *et al.* ('678) teach a compression molding process of a thermo-fusible fibrous (thermoplastic fibers) blank including, inserting said blank in a mold and applying pressure and heat to a specific region such that said thermoplastic fiber in said specific region melts, hence the density and hardness in said specific region (col. 1, lines 45-56 and col. 2, lines 9-25). It is submitted that an increased hardness results in an increased rigidity. Therefore, it would have been obvious for one of ordinary skill in the art to have heated the fibrous core of polymeric thermoplastic binder fibers in a specific region (only in at least one selected area) as taught by Nomizo *et al.* ('678) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Nomizo *et al.* ('678) specifically teaches

that such localized heating allows for an increased density and hardness (rigidity) in said areas which results in a more versatile and improved product.

In regard to claim 18, Souders *et al.* ('289) teach cutting upper and lower fabric layers (col.. 5, lines 65-68). It is submitted that the fibrous core (26) of polymeric thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) had been cut prior to placing between said cut upper and lower fabric layer (see Figure 7). Nelson ('106) teach using an insulation insert (70) of a pre-selected size and contour. It is submitted that the pre-selected size and contour is obtained by cutting (see col. 10, lines 50-55 and col. 11, lines 59-65). Therefore, it would have been obvious for one of ordinary skill in the art to have cut an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289) in view of Flowers *et al.* ('664) and in further view of Nomizo *et al.* ('678), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289).

Specifically regarding claims 19 and 20, Souders *et al.* ('289) teach a temperature of said assembly (54) between 250-400 ^{o}F (see col. 6, lines 22-27).

Regarding claim 23, Souders *et al.* ('289) teach a compression factor between 10-87.5%.

In regard to claim 24, Souders *et al.* ('289) teach upper and lower fabric layers (40, 42) (see Figure 7).

6. Claim 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souders *et al.* (US Patent No. 5,591,289) in view of Nelson (US Patent No. 4,985,106) and in further

view of Flowers *et al.* (US Patent No. 4,131,664), Nomizo *et al.* (US Patent No. 5,366,678) and Doerer *et al.* (US Patent No. 4,418,031).

Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) and Nomizo *et al.* ('678) teach the basic claimed process as described above.

Regarding claims 21 and 22, Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) and Nomizo *et al.* ('678) do not teach a specific molding pressure and time. Doerer *et al.* ('031) teach compression molding of a fibrous core having polymeric thermoplastic binder (carrier) fibers (col. 5, lines 40-57). Further, Doerer *et al.* ('031) teach that the molding temperature, pressure and time depend on the final product. It is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time and pressure as taught by Doerer *et al.* ('031) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) and Nomizo *et al.* ('678), because Doerer *et al.* ('031) specifically teach that molding time and pressure are result-effective variables.

7. Claims 9-13 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Ang (US Patent No. 5,976,295) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664).

Ang ('295) teaches the basic claimed process of forming a composite automotive headliner (insulator) including, assembling a fibrous mat (14) having polymeric thermoplastic binder fibers (col. 3, lines 49-57) (polymer based blanket material), a first facing layer (34) and a

fibrous composite core (20) (see Figure 3) (facing layer) to form a charge (24), heating said charge (24) in a convection oven such that thermoplastic fibers of fibrous mat (14) soften and bond with other fibers within said fibrous mat (14) (col. 3, lines 53-56 and co. 4, lines 23-30), positioning said heated charge (24) between mold dies (28, 30), compressing said heated charge (24) to a desired shape and cooling said molded headliner (insulator) between mold dies (28, 30) prior to removing said molded headliner (insulator) from said mold dies (28, 30). Since said heated charge (24) assumes the shape of the mold, it is submitted that said heated binder fibers are set under pressure to the desired conforming shape when placed between said mold dies (28, 30).

Regarding claim 9, Ang ('295) does not teach inserting an insulation insert within said assembly (54). Nelson ('106) teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see col. 10, lines 47-59 and, Figures 3 and 6).). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6). Flowers *et al.* ('664) teach an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55). Therefore, in view of the teachings of Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, whereas Flowers *et al.* ('664) that an

insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

In regard to claim 10, Ang ('295) teaches in Figure 4 that fibrous mat (14), first facing layer (34) and fibrous composite core (20) (see Figure 4) forming charge (24) have predetermined dimensions prior to placing between mold dies (28, 30). Further, Ang ('295) specifically teaches cutting fibrous composite core (20) prior to molding (col. 4, lines 48-50), hence it is submitted that the pre-selected dimensions of fibrous mat (14) and first facing layer (34) are also obtained by cutting. Nelson ('106) teach using an insulation insert (70) of a pre-selected size and contour. It is submitted that the pre-selected size and contour is obtained by cutting (see col. 10, lines 50-55 and col. 11, lines 59-65). Therefore, it would have been obvious for one of ordinary skill in the art to have cut an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Ang ('295) in view of Flowers *et al.* ('664), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Ang ('295).

Specifically regarding claims 11 and 12, Ang ('295) teaches heating said charge (24) between 160-200 °C (see col. 4, line 28) (320-392 °F).

Regarding claim 13, Ang ('295) teaches a molding pressure of 1-10 psi

In regard to claim 16, Ang ('295) teaches a second facing layer (20).

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ang (US Patent No. 5,976,295) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Doerer *et al.* (US Patent No. 4,418,031).

Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claim 14, Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a specific molding time. Doerer *et al.* ('031) teach compression molding of a fibrous core having polymeric thermoplastic binder (carrier) fibers (col. 5, lines 40-57). Further, Doerer *et al.* ('031) teach that the molding temperature, pressure and time depend on the final product. It is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time as taught by Doerer *et al.* ('031) in the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Doerer *et al.* ('031) specifically teach that the molding time is a result-effective variable.

9. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ang (US Patent No. 5,976,295) in view of Nelson (US Patent No. 4,985,106) and in further view of Flowers *et al.* (US Patent No. 4,131,664) and Souders *et al.* (US Patent No. 5,591,289).

Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) teach the basic claimed process as described above.

Regarding claim 15, Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a specific compression ratio. Souders *et al.* ('289) teach the basic claimed process for making a fibrous headliner (multiplayer composite insulator) having a compression ratio between 10-87.5%. Therefore, it would have been obvious for one of ordinary skill in the art to have a compression ratio between 10-87.5% as taught by Souders *et al.* ('289) in the headliner obtained by the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Souders *et al.* ('289) specifically teach that such a ration provides for an improved headliner and also because both Ang ('295) and Souders *et al.* ('289) teach similar end-products, materials and processes.

In regard to claim 16, Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) do not teach a second facing layer. Souders *et al.* ('289) teach the basic claimed process for making a fibrous headliner (multiplayer composite insulator) having a first and a second facing layer (40, 42). Therefore, it would have been obvious for one of ordinary skill in the art to have a first and a second facing layer as taught by Souders *et al.* ('289) in the headliner obtained by the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Souders *et al.* ('289) specifically teach that such an arrangement provides for an improved headliner due to improved flexibility and strength, and also because both Ang ('295) and Souders *et al.* ('289) teach similar end-products, materials and processes.

Response to Arguments

10. Applicants' remarks filed March 17, 2003 (Paper No. 10) have been considered.

11. In response to applicant's arguments against the teachings of Souders *et al.* (US Patent No. 5,591,289), Nelson (US Patent No. 4,985,106) and Flowers *et al.* (US Patent No. 4,131,664) individually (see pages 2-3 of the amendment filed March 17, 2003), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicants argue that Souders *et al.* ('289) do not teach "the step of cooling the headliner in the molding press to set its molded shape" (see page 3 of the amendment filed March 17, 2003). In response, it should be noted that under MPEP §2112, upon "relying...the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." Ex parte Levy, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). As shown above, because the molded fibrous headliner of Souders *et al.* ('289) assumes a self-supporting strength, it is submitted that cooling occurs while the molded fibrous headliner is in between mold dies (58, 60).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Specifically, Applicants argue that the "Examiner does not otherwise supply, the requisite 'objective evidence' of a suggestion to combine its teachings with those of either Nelson or Souders et al. references" (see page 4 of the amendment field March 17, 2003). Further, Applicants argue that in the recent decision of In re Lee, 61 USPQ2d 1430 (Fed. Cir. 2002) the court held that "the Board of patent Appeals and Interferences improperly relied upon 'common knowledge and common sense' of a person of ordinary skill in the art to find an invention obvious." (see page 5 of the amendment filed March 17, 2003).

In response, it should be noted that a careful review of in *In re Lee*, shows that the court actually held that "when they [the Board] rely on what they assert to be general knowledge to negate patentability, that *knowledge must be articulated* and placed on record." *Id.* at 1435.

In this case:

(a) the primary reference, Souders *et al.* ('289), teach a process for making a fibrous headliner (multiplayer composite insulator) including, positioning a fibrous core (26) of polymeric thermoplastic binder fibers (col. 4, lines 33-35 and 46-50) between fabric layers (40, 42) (see Figure 7) to form an assembly (54), positioning said assembly (54) between mold dies (58, 60), compressing under conditions of heat said assembly such that said binder fibers melt and are set under heat and pressure to the desired conforming shape (col. 2, lines 20-25 and col. 6, lines 12-15) to form a molded fibrous headliner. Since the molded fibrous headliner of Souders *et al.* ('289) assumes a self-supporting strength, it is submitted that cooling occurs while the molded fibrous headliner is in between mold dies (58, 60). Further, Souders *et al.* ('289) teach opening the mold dies (58, 60) and removing said molded fibrous headliner for further post-molding processing.

(b) the secondary reference, Nelson ('106), teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see col. 10, lines 47-59 and, Figures 3 and 6). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6).

(c) the motivation to combine that teachings of Souders *et al.* ('289) and Nelson ('106) is that it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for

improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289).

In response to Applicants' argument that Souders *et al.* ('289) teach away from mold cooling (see page 3 of the amendment filed March 17, 2003), it should be noted that a "prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention." W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). As such, although Souders *et al.* ('289) teach a separate cooling fixture, Souders *et al.* ('289) also teach cooling of the molded fibrous headliner in the mold until it assumes a self-supporting strength.

(d) the secondary reference, Flowers *et al.* ('664), teach a molding process for a fibrous acoustical insulator including, providing a mold having heating/cooling channels (see col. 4, lines 53-60).

(e) the motivation to combine the teachings of Souders *et al.* ('289), Nelson ('106) and Flowers *et al.* ('664) is that it would have been obvious for one of ordinary skill in the art to have provided a mold having cooling channels as taught by Flowers *et al.* ('664) to cool the resulting molded structure in the mold in the process of Souders *et al.* ('289) in view of Souders *et al.* ('289) due to a variety of advantages such as, reduced costs by not having an additional cooling station, simplicity of mold design, etc.

(f) further motivation to combine the references can be derived from the fact that Flowers *et al.* ('664) teach an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55). Therefore, in view of the teachings of

Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, whereas Flowers *et al.* ('664) that an insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

12. Applicants argue that that 'the Examiner does not cite to sufficient 'objective' evidence to conclude that a skilled artisan would be motivated to combine the teachings of" Nelson ('106) Souders *et al.* ('289) and Flowers *et al.* ('664) but rather "it is the Examiner's speculative determination using hindsight...to 'improve' the headliner to noise, vibration and heat' such that "this 'leap of logic is simply unsupported by the evidence of record" because they "are wholly devoid of reference to any objective evidence" (see pages 5-7 of the amendment filed March 17, 2003). In response, it should be noted that:

(a) the motivation to combine the teachings of Souders *et al.* ('289) and Nelson ('106) is that it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, hence providing for an improved fibrous automobile headliner as that taught by Souders *et al.* ('289).

(b) the motivation to combine the teachings of Souders *et al.* ('289), Nelson ('106) and Flowers *et al.* ('664) is that it would have been obvious for one of ordinary skill in the art to

have provided a mold having cooling channels as taught by Flowers *et al.* ('664) to cool the resulting molded structure in the mold in the process of Souders *et al.* ('289) in view of Souders *et al.* ('289) due to a variety of advantages such as, reduced costs by not having an additional cooling station, simplicity of mold design, etc. Further motivation to combine the references can be derived from the fact that the primary reference Souders *et al.* ('289) teach cooling of the molded fibrous headliner until it assumes a self-supporting strength.

Furthermore, it should be noted that under MPEP §2145(III), "[T]the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art." In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

Applicants argue that that the insulators of Nelson ('106) do not correspond "to one formed by the process set forth in claim 1" (see page 5 of the amendment field March 17, 2003). However, it should be noted that under MPEP §2113, although "product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself" and as such it is only the structure of the taught insulators of Nelson ('106) and Flowers *et al.* ('664) that is relevant in determining motivation. Therefore, in view of the teachings of Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration

dampening, whereas Flowers *et al.* ('664) that an insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

Applicants argue that Souders *et al.* ('289) does not teach "cooling said insulator precursor in said molding press so as to set said insulator precursor in its molded shape" (see page 8 of the amendment filed March 17, 2003). However, as shown above, becasue the molded fibrous headliner of Souders *et al.* ('289) assumes a self-supporting strength, it is submitted that cooling occurs while the molded fibrous headliner is in between mold dies (58, 60). It is noted that the limitation of "cooling to room temperature" upon which applicant relies is not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicants argue that the "Examiner may posit that it is inherent in the Flowers et al. reference that the insulator would be cooled and set in the mold" (see page 9 of the amendment filed March 17, 2003). In response, it should be noted that the use of the teachings of Flowers *et al.* ('664) are not for inherency purposes but rather for obviousness purposes. Flowers *et al.* ('664) specifically teach a molding process for a fibrous acoustical insulator including, providing a mold having heating/cooling channels (see col. 4, lines 53-60) and as such does not provide an inherency teaching. The motivation to combine the teachings of Souders *et al.* ('289), Nelson ('106) and Flowers *et al.* ('664) is that it would have been obvious for one of ordinary skill in the art to have provided a mold having cooling channels as taught by Flowers *et al.* ('664) to cool the resulting molded structure in the mold in the process of Souders *et al.* ('289) in view of

Souders *et al.* ('289) due to a variety of advantages such as, reduced costs by not having an additional cooling station, simplicity of mold design, etc. It should be noted that Further motivation to combine the references can be derived from the fact that the primary reference Souders *et al.* ('289) teach cooling of the molded fibrous headliner until it assumes a self-supporting strength.

Applicants argue that the process parameters of "temperature, pressure and time must be read in the context of the ranges explicitly set forth in the Doerer et al. patent" (see pages 10-11 of the amendment filed March 17, 2003). However, the teachings of Doerer *et al.* ('031) were not used to teach specific process parameters. The teachings of Doerer *et al.* ('031) were used to show that in a compression molding process of a fibrous core having polymeric thermoplastic binder (carrier) fibers the process parameters of molding temperature, pressure and time depend on the final product. Therefore, it is submitted that the molding temperature, pressure and time are result-effective variables. In re Antoine, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Therefore, it would have been obvious for one of ordinary skill to have used routine experimentation to determine an optimum molding time and pressure as taught by Doerer *et al.* ('031) in the process of Souders *et al.* ('289) in view of Nelson ('106) and in further view of Flowers *et al.* ('664) or in the process of Ang ('295) in view of Nelson ('106) and in further view of Flowers *et al.* ('664), because Doerer *et al.* ('031) specifically teach that molding time and pressure are result-effective variables.

Applicants argue that "*In re Antonie* relates to the optimization of a variable in a known process" and that "the results of optimizing a variable...were unexpectedly good" (see pages 11-

12 of the amendment filed March 17, 2003). In response, it should be noted that by definition optimization of process parameters provides for the best possible results because such variables have been optimized.

In response to applicant's arguments against the teachings of Ang (Us Patent No. 5,976,295), Nelson (US Patent No. 4,985,106) and Flowers *et al.* (US Patent No. 4,131,664) individually (see pages 12-17 of the amendment filed March 17, 2003), one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

13. In response to applicant's argument that there is no suggestion to combine the teachings of Ang (Us Patent No. 5,976,295), Nelson (US Patent No. 4,985,106) and Flowers *et al.* (US Patent No. 4,131,664) (see pages 12-15 of the amendment filed March 17, 2003), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case:

(a) the primary reference, Ang ('295), teaches a process of forming a composite automotive headliner (insulator) including, assembling a fibrous mat (14) having polymeric thermoplastic binder fibers (col. 3, lines 49-57), a first facing layer (34) and a fibrous composite core (20) (see Figure 3) to form a charge (24), heating said charge (24) in a convection oven such

that thermoplastic fibers of fibrous mat (14) soften and bond with other fibers within said fibrous mat (14) (col. 3, lines 53-56 and co. 4, lines 23-30), positioning said heated charge (24) between mold dies (28, 30), compressing said heated charge (24) to a desired shape and cooling said molded headliner (insulator) between mold dies (28, 30) prior to removing said molded headliner (insulator) from said mold dies (28, 30). Since said heated charge (24) assumes the shape of the mold, it is submitted that said heated binder fibers are set under pressure to the desired conforming shape when placed between said mold dies (28, 30).

(b) the secondary reference, Nelson ('106), teaches an insulation panel including, top and bottom cover sheets (41, 42), fibrous insulation material (43a, 43b) and an insulation insert (48) which is laminated between said top and bottom sheets and either above or below the fibrous insulation material (see col. 10, lines 47-59 and, Figures 3 and 6).). It is noted that vibration pad (70) of Nelson ('106) is positioned at a pre-specified location (see Figure 6).

(c) the secondary reference, Flowers *et al.* ('664), teach an insert layer (64) that can be applied only in certain localized areas of the resulting insulation panel (see col. 8, lines 49-55).

(d) the motivation to combine the teachings of Ang ('295), Nelson ('106) and Flowers *et al.* ('664) is that in view of the teachings of Flowers *et al.* ('664) that an insulating insert is applied at localized positions, it would have been obvious for one of ordinary skill in the art to have included an insulation insert as taught by Nelson ('106) in the laminated assembly obtained by the process of Souders *et al.* ('289), because Nelson ('106) specifically teaches that such an insert provides for improved vibration dampening, whereas Flowers *et al.* ('664) teach

that an insulating insert is applied at localized positions depending on the desired characteristics of the resulting molded article.

Applicants argue that the teachings of Nomizo *et al.* ('678) are not particularly "relevant to the production of insulation materials where speed of production and cycle times are critical tp produce a commercial product at a reasonable cost" (see page 16 of the amendment filed march 17, 2003). In response, it should be noted that under MPEP §2145(VII), the "fact that a combination would not be made by businessmen for economic reason does not mean that a person of ordinary skill in the art would not make the combination because of some technological incompatibility." In re Farrenkopf, 713 F.2d 714, 219 USPQ 1 (Fed. Cir. 1983).

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (703) 305-0396. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM and alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard D. Crispino, can be reached at (703) 308-3853. The fax phone number for this Group is (703) 305-7718.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

Stefan Staicovici, PhD

5/31/03

Primary Examiner

AU 1732

May 31, 2003